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A SIMPLE METHOD FOR PREPARING LANTERN SLIDES

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For the sake of clarity and emphasis, it frequently becomes necessary to employ lantern slides for presenting various types of data. Time and cost often make it inconvenient to obtain slides prepared professionally by means of photography. On several occasions this laboratory has resorted to an easy method of making lantern slides by applying the subject free-hand directly on glass with water-proof ink. They have served just as satisfactorily as those prepared by the photographic process. No elaborate equipment is necessary, and all the needed materials are readily accessible. The detailed directions given below always have been found to give a suitable slide. Minor variations, such as the use of white instead of black ink, and adhesive tape instead of the regular binding tape, may be made, of course, to suit the individual taste.

No claim is made that the outlined procedure is original. The method probably has not been used more frequently simply because writing on glass is considered difficult. This obstacle can be overcome by cleaning the glass slide thoroughly with a cleaning mixture, as outlined below in detail. Ordinary washing with soap and water does not penetrate the glass pores sufficiently to remove all the grease and other materials which tend to cause the ink to spread unevenly.

Materials required

Lantern-slide cover glasses (3-1/4 by 4 inches).
Fine, stiff-pointed steel pen.
Black waterproof drawing ink.
Cleaning solution.
Distilled water.
Ethanol, 95 percent; or acetone (C.P.).
Linen hand towel.
Black paper lantern-slide tape (1/2 inch wide).

The lantern-slide cover glasses and binding tape are the ordinary commercial products and may be obtained from any of the photographic supply houses.

Cleaning solution.--This solution may be prepared by adding, with stirring, 500 cc. of concentrated sulfuric acid to 25 grams of powdered sodium or potassium bichromate. Some of the salt will settle out on standing. The dark amber-colored supernatant layer may be decanted for use and cleans satisfactorily until it begins to assume a greenish color. Great care should be employed in handling this solution, as it is very corrosive. The addition of water to the cleaning solution generates much heat. Should it be desirable to dilute the solution with water, or when the spent solution is being disposed of, the solution should be carefully poured into a large volume of water; the reverse order of mixing should never be employed.

Preparation of Glass

The standard lantern-slide cover glass is cleaned by placing it in the sulfuric acid-bichromate cleaning solution until the surface of the glass shows an unbroken film of water on being washed free of acid. It is then thoroughly rinsed with distilled water, dipped into 95-percent ethanol or acetone, and wiped dry with a linen towel. Cotton towels leave a lint deposit which is difficult to remove completely. The cleaned glasses should be held on the edges to eliminate fingerprints as much as possible.

Inking the Slides

The suggestions offered by M. P. Jones Jour. Econ. Ent. 30: 461 (1937)) on points to be considered in the preparation of lantern slides should be observed. It is particularly desirable to remember that the drawing should be confined to a space not over 2 3/4 by 3 inches.

The subject of the slide is applied freehand to the cleaned glass surface with a steel pen and waterproof drawing ink. It is important to use a fine, rather stiff-pointed steel pen, the point of which will have no appreciable spread under slight pressure. In order to obtain lines of unwavering density, the pen should be dipped about two-thirds of its length into the ink and then withdrawn along the side of the bottle opening, the surplus being allowed to drain. The ink is started flowing from the pen by first drawing lines on a sheet of paper until the flow of ink becomes smooth and steady. The pen is then ready for inking the glass and should be used immediately, as any delay allows the film of ink on the surface of the pen point to dry, which prevents the transfer of ink to the glass surface. As soon as the ink shows

signs of ceasing to flow, the pen should be dipped into the ink supply, otherwise the lines will become of uneven density and usually will be spoiled by retracing. The carbon base of the black drawing ink will clog the feed of the steel point after some use. If dipping the pen into the ink two or three times fails to dislodge the obstructions, the wet pen must be cleaned by carefully wiping it with a cloth.

Finishing the Slide

When the inking process is completed, the slide is allowed to dry, preferably face down on a suitable support. Any lint or dust that may have collected is brushed away, and fingerprints are removed by wiping with a towel damp with ethanol.

The slide may be used at this stage, although it is better that it be covered with a second cleaned cover glass. The edges of the two glasses are bound conveniently in the following manner: The slightly moistened or "tacky" binding tape (if too much moisture is present it will creep between the glasses) is laid on a flat surface. The edges of the covered slide are rolled along the center of the tape with slight pressure, the outside edges of the tape are then pressed against the surface of the glasses by moving the fingers in the same direction around the outside of the slide from one corner to the next. The "ears" on the corners are simply pressed flat before the tape becomes dry and will remain in place.

Slides prepared in the manner described can be used without delay and have proved satisfactory after repeated use.

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